Once the definitive diagnosis of an abdominal aortic aneurysm has been established by ultrasonography and a decision to operate has been made, routine preoperative aortography is not always necessary despite the fact that ultrasound usually is not able to show the relationship of the aneurysm to the renal arteries nor pathological involvement of the branch vessels of the aorta. Use of further preoperative workup, including arteriography, should be reserved for those patients with suspected renal artery stenosis or ischemia of the mesenteric circulation or of the lower extremities.

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Tuberculosis of Bone and Joint

TUBERCULOUS OSTEOMYELITIS and tuberculous arthritis often go unrecognized by physicians. A misleading clinical hystory as well as a "nonclassical" radiographic picture contribute to the delay in diagnosis. Frequently, the patient relates the onset of musculoskeletal pain to a specific episode of trauma, thus misleading the clinician as to the chronicity of the problem.

Because of the indolent nature of tuberculous infections, the joint may appear normal or, at most, a distended joint capsule from fluid and synovial hypertrophy may be seen. Occasionally, marginal erosions of the articular surfaces of bone and narrowing of the joint space are noted on the initial examination. Tuberculous osteomyelitis classically appears as a well-circumscribed lytic lesion, but a more aggressive form of the organism causes a permeative destructive pattern with periosteal reaction, identical to a pyogenic infection.

A review of the literature shows that in 75 percent of patients with skeletal tuberculosis there are pulmonary changes. In our experience, no abnormalities are seen on most x-ray films of the chest in these patients. Therefore negative findings on an x-ray film of the chest should not dissuade one from the diagnosis of tuberculosis.

In most cases of skeletal tuberculosis, the skin test is positive. Therefore a negative skin test would argue against the diagnosis of tuberculosis. To avoid delay in diagnosis, in any case of monoarticular arthritis or in an aggressive monostotic bone lesion aspiration or biopsy must be done and the specimen sent for acid fast bacteria culture, despite a misleading history or radiographic appearance.

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Ultrasonography of the Biliary System

IN RECENT YEARS ultrasound tomographic images have significantly improved. This improvement, termed gray scale, makes it possible to show abnormal morphologic changes in the biliary system more accurately. The general advantages and disadvantages of ultrasonography have been widely publicized. Specific advantages of this method for biliary tract imaging are that ultrasonograms require no contrast agents and that image quality is independent of hepatic or biliary function.

The gallbladder can be visualized in approximately 95 percent of fasting persons. Gallstones are recognized by high amplitude acoustical reflections within the gallbladder. Additionally, most stones so strongly attenuate the sound beam that an "acoustic shadow" is produced. Decubitus or erect views are used to show that stones gravitate to dependent positions.

Not all gallstones produce strong reflections or "acoustic shadows." A paucity of bile within the gallbladder or a severely contracted gallbladder complicates the ultrasonographic diagnosis.

Normal sized intrahepatic bile ducts are not visible on ultrasonograms. Occasionally normal sized extrahepatic bile duct components can be shown to be present. Conversely, it is possible to show dilated intrahepatic and extrahepatic bile ducts. Therefore, ultrasonography is highly valuable in jaundiced patients in whom noninvasive radiographic contrast examinations may be impossible. The ultrasonographic findings aid in the selection of patients in whom additional invasive diagnostic procedures may be needed, such as endoscopic retrograde cholangiopancreatography or percutaneous cholangiography. In addition, a mass such as carcinoma of the pancreatic head or gallstones may be shown to be the cause of the obstruction.

The major indications for ultrasonography of the biliary system are: (1) jaundiced patients in whom studies using orally or intravenously given contrast material are precluded, (2) patients in